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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,359	12/30/2003	Ioan Sauciuc	42P18283	1189

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EXAMINER	
WEINSTEIN, LEONARD J	
ART UNIT	**PAPER NUMBER**
3746	

NOTIFICATION DATE	DELIVERY MODE
07/09/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Office Action Summary	Application No.	Applicant(s)	
	10/749,359	SAUCIUC ET AL.	
	Examiner	Art Unit	
	LEONARD J. WEINSTEIN	3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 March 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13,15-17 and 19-28* is/are pending in the application.

4a) Of the above claim(s) *1-5,13,15-17 and 19-24* is/are withdrawn from consideration.

5)☒ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *6,7,9-12 and 25-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to the amendment of March 21, 2008. In making the below rejections and/or objections the examiner has considered and addressed each of the applicant's arguments.

2. The examiner notes that new claims 27 and 28 have been presented in the response of March 21, 2008.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 6-7, 10-12, and 25, 27, and 28 are rejected under 35 U.S.C. 102(a) as being anticipated by Sauciuc et al. US 2003/0205364. Sauciuc teaches all the limitations as claimed for a method including: **[claim 6]** determining a presence of a threshold amount of a fluid that is within a pump/compressor 10, condensing vapor of the fluid or evaporating liquid of the fluid as it is present in the pump/compressor 10 (¶ 0025-0029); **[claim 7]** checking a sensor 24 (¶ 0027) coupled to the pump/compressor 10; **[claim 10]** repeating the steps of claim 6 until there is no longer a threshold amount of the fluid in the pump/compressor 10 (¶0025, ¶0029); **[claim 11]** after the step of claim 10, the step of applying power to the pump/compressor 10 (¶ 0028); **[claim 12]** applying power to a heat source 22 coupled to the pump/compressor (¶0027); **[claim**

25] and powering on the pump/compressor 10 after condensing or after evaporating (¶0029); **[claim 27]** the step of the method wherein the fluid 30 is within the pump 10 and the pump 10 is a liquid pump 10 to force liquid through a system, as the system defined the pumping apparatus 10 itself including evaporator 14, condenser 18, heater 22, and conduits 26A and 26B (¶0023).

5. Claims 6-7, 9-12, and 25-26 rejected under 35 U.S.C. 102(b) as being anticipated by Manz et al. 5,497,625. Manz teaches all the limitations as claimed for a method including the steps of: **[claim 6]** determining a presence of a threshold amount of a fluid that is within a pump or a compressor 12, via elements 62, 64, and 66, and condensing vapor of the fluid as it is present in the pump (12) or evaporating liquid of the fluid as it is present in the compressor (12) (col. 3 ll. 19-46); **[claim 7]** the step of checking a sensor, elements 62 and 66, coupled to the pump or compressor 12; **[claim 9]** the step of cooling vapor within a liquid pump, element 16 of 12, to a condensation point by a thermoelectric cooler 24; **[claim 11]** the steps of repeating the steps of claim 9 until there is no longer a threshold amount of the fluid in the pump or compressor (12) (col. 3 ll. 33-46); **[claim 12]** the step of claim 9 applying power to the pump or compressor (12) (col. 3 ll. 46-62); **[claim 25]** powering on the pump 12 after condensing, or powering on the compressor 12 after evaporating (col. 3 ll. 19-62); **[claim 26]** and the steps of checking a sensor 66, coupled to the pump or compressor (12), wherein condensing comprises cooling vapor within a liquid pump, element 16 of 12, to a condensation point by a thermal electric cooler 24, and further comprising turning off the sensor 66 and the thermal electric cooler 24, then turning on the pump

12 (col. 3 ll. 39-46); **[claim 28]** the step of the method wherein a fluid is within a compressor 12 and the compressor 12 is a vapor compressor, element 14 of element 12, to force vapor through a system 10.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 9 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sauciuc et al. US 2003/0205364 in view of Harrison et al. US 2002/0162339. Sauciuc teaches all the limitations as claimed for method as discussed and the step checking a sensor 24 (¶0027) coupled to the pump/compressor 10 wherein condensing comprises cooling vapor within a liquid pump to a condensation point (¶ 0028) and further comprising turning off the sensor 24 (¶ 0027) and a heat source 34, then turning on the pump 10 (0029); but fails to teach the following limitation that is taught by Harrison for a method including cooling a vapor to a condensation point by a thermoelectric cooler 2. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify method wherein a thermoelectric cooler was used in order to continuously transfer heat from a thermal load (Harrison ¶ 0012).

Response to Arguments

8. Applicant's arguments filed March 21, 200 have been fully considered but they are not persuasive. The examiner's response to applicant's arguments filed January 7, 2008 is repeated here for reference with corrections to minor grammatical errors.

> "The examiner notes that the references cited above would not be required to teach a pump beyond an apparatus that moves a fluid as stated by applicant (pg. 3 - ¶16). Therefore with reference to Sauciuc, the reference teaches element 10 to be a "pumpless" system, however element 10 is the actual apparatus which moves a fluid. The specification does not enable/define a pump to be anything more than an apparatus that moves a fluid, as there are no moving parts or identifiable pumping members disclosed, excluding the pump itself. Taking the broadest reasonable interpretation of the limitations as claimed into consideration, element 10 of Sauciuc is itself a pump comprised of all the intermediate parts taught by embodiment shown in figure 1 (i.e. evaporator, heater, etc.). The same principle applies to the vessel 12 of Manz, wherein the entire system acts to create a volume of refrigerant under pressure by a control of the system. Manz teaches that once a threshold of a fluid is determined to have been reached, the vessel 12 transfers the refrigerant with the use of valves controlled by the same controller that acted to create a fluid under pressure."

a. With respect to the rejection of claims 6-7, 10-12, and 25 under 35 U.S.C. 102(a) as being anticipated by Sauciuc US 2003/0205364, the applicant argues that Sauciuc fails to teach a method including determining the presence of threshold amount of liquid within a pump or compressor and condensing the vapor in the pump or evaporating the liquid in the compressor. The applicant argues that a practitioner would find it "quite clear" that a pump or compressor of

the instant invention would have moving parts, upon reading the instant application. The applicant argues that the Sauciuc does not teach applying power to a pump after condensing a vapor.

b. With respect to the rejection of claims 6-7, 9-12, and 25-26 under 35 U.S.C. 102(b) as being anticipated by Manz US 5,497,625, the applicant argues that Manz does not teach a compressor or applying power to a compressor after evaporating a liquid.

9. In response to applicant's argument that Sauciuc does not teach a pump condensing vapor with a pump, the examiner disagrees. The examiner identified element 10 Sauciuc as a teaching of a pump as claimed. Sauciuc teaches that the invention provides a "pumpless" system, however this does not prevent an interpretation of the apparatus 10, in and of itself, being a pump in light of applicant's own definition of a pump. In paragraph 16 of the instant application, the applicant defines a pump to be a "Pump 110, in other embodiments, may be any type of device that forces liquid through a system." This in affect renders applicant's arguments moot since the record clearly reflects that the applicant considers a pump to be broadly defined by any apparatus that moves fluid. Sauciuc clearly states that a fluid 30 is moved through the apparatus designated by numeral 10. It should be noted that the examiner considers element 10 to be both a pump and a system in that the elements of the apparatus 10 is composed of a system of elements (14, 18, 22, 26A and 26B) that operate in concert to cause a fluid to move through elements 26A and 26B to and from the remaining elements (14, 18, and 22) as disclosed in ¶0022 and ¶0023 of Sauciuc. The examiner notes that the

limitations are sufficiently broad to encompass this interpretation as evidenced by the applicant's definition for a pump in paragraph 16 of the instant application.

10. In response to applicant's argument that a practitioner, upon reading the instant application, would find it "quite clear" that a pump or compressor of the instant invention would have moving parts, the examiner strongly disagrees. The examiner notes that after thorough review of the ¶2-7, 16, 32, 54, 56, 62, 65, 69, 71, and 73 of the instant application, it is clear that the sections cited by the applicant do not explicitly disclose any components of a pump, or a system that are strictly confined to comprising any definable moving parts. The disclosure is void of any description directed toward structural elements that by their own movement, entrain a liquid or vapor to move. One of ordinary skill in the art would recognize that various elements such as a heater or a pump are actuated to move liquid or vapor, but would not know how or what component of those elements moved the liquid or vapor after the elements (such a pump or a heater) were actuated. The examiner also notes that since no parts or components of a pump are clearly disclosed, a pump (such as 110) is actually not described in enough detail to go beyond a simple vessel or container that holds fluid acted upon on to be pumped by various heaters or undisclosed actuators.

The applicant cites paragraph 4 including "'the pump continually pushes liquid,'" the actuator disclosed in paragraph 54 "capable of pumping a fluid," and the disclosure in paragraphs 65 and 69 that includes applying power to a pump such that an actuator pumps fluid, all as evidence that a practitioner would come to the conclusion that the instant invention includes moving and motorized parts. First the applicant is directed to

applicant's own definition of a pump being **"any device"** that moves a fluid. The Sauciuc is a prime example of an apparatus void of any moving parts that moves a fluid. A heater could be considered a pump once at fluid on a surface of the heater reaches a temperature where it changes phase into a vapor and rises. Likewise a condenser that cools the air around it to the point where water is formed on a surface thereof, having been moved from the immediate atmosphere from which it was formed, could be considered a pump. The disclosure of an actuator does nothing to define a structural component that would include a moving object. An actuator is any device that causes something (anything) to happen. The examiner maintains that the disclosure does not show or describe any specific structural elements moving or being motorized to push, move, or entrain a fluid.

11. In response to applicant's argument that the Sauciuc does not teach applying power to a pump after condensing a vapor, the examiner disagrees. The examiner maintains that element 10 of Sauciuc defines a pump, as such element 10 is comprised of a heater 22. If power is applied to a heater 22 as disclosed in ¶0027 of Sauciuc, then power is being applied to the apparatus 10 as whole. The examiner also notes that this does not contradict a rejection of the claims 12. The applicant claims a step of applying power to a heat source to, but the limitation is not limited to applying power to a pump (claim 11) and then applying power to a heat source (claim 12). Claim 12 would not limit a reference to be required to teach a method including step (e) occurring after step (d), only that a reference teach an apparatus capable of doing both steps (d) and (e). If

power is applied to the heater 22 of the pump 10 of Sauciuc, then power is being applied effectively to the pump and the limitations as claimed are anticipated.

12. In response to applicant's argument that Manz does not teach does not teach a compressor or applying power to a compressor after evaporating a liquid, the examiner disagrees. The applicant is directed to paragraph 32 of the instant application where the applicant defines a compressor to be "any type of device that forces vapor through a system." Manz teaches a clossed vessel that includes a vaporization chamber 14 that has an outlet port that extends to a vapor port 56. This means that vessel 12 effectively causes vapor to move from chamber 14 to port 56 and constitutes a compressor by applicant's own definition. With respect to applicant's argument that Manz does not teach applying power to a compressor the examiner disagrees. Similar to Sauciuc, the compressor taught by the vessel of Manz, includes heater element 24 as a component. Manz discloses that the heating element 24 remains energized until all the refrigerant is pump from a container 40 to a container 58. Thus Manz teaches applying power to a component of the device, considered to be a compressor by applicant's own definition, and anticipates the limitations as claimed. The limitations of claim 12 would not limit a reference to be required to teach a method including step (e) occurring after step (d), only that a reference teach an apparatus capable of doing both steps (d) and (e). If power is applied to the heater 24 of the compressor 12 of Manz, then power is being applied effectively to the compressor.

Conclusion

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEONARD J. WEINSTEIN whose telephone number is (571)272-9961. The examiner can normally be reached on Monday - Thursday 7:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on (571) 272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Charles G Freay/
Primary Examiner, Art Unit 3746

/Leonard J Weinstein/
Examiner, Art Unit 3746